

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Currently Amended) A medical electrical lead, comprising:
a lead body including a proximal end;
a sensor capsule coupled to the lead body; and
a sensor bus coupled to the sensor capsule and extending through the lead body to the lead body proximal end, the sensor bus comprising:
an elongate coil conductor forming a lumen of a first diameter,
an elongate cable conductor comprising a plurality of ~~inter-twisted~~ wire strands forming a multilayered, conductive bundle that comprises an outer layer comprising multiple wire strands located around an inner layer that comprises multiple wire strands, wherein the elongate cable conductor extends and extending within the lumen of the coil conductor, and
an electrically insulative layer formed as a coating on an exterior surface of the cable conductor, wherein an outer diameter of the insulative layer is of a second diameter less than the first diameter of the lumen of the coil conductor such that an average gap exists between the insulative layer and an interior surface of the lumen of the coil conductor, wherein the insulative layer has a relative dielectric coefficient less than approximately 10, and wherein the insulative layer has an inner diameter.
2. (Cancelled)
3. (Original) The lead of claim 1, wherein the relative dielectric coefficient of the insulative layer is less than approximately 3.
4. (Original) The lead of claim 2, wherein the outer diameter of the insulative layer is greater than approximately 2 times the inner diameter of the insulative layer.

5. (Previously Presented) The lead of claim 1, wherein the average gap is less than approximately 0.003 inch.
6. (Original) The lead of claim 5, wherein the average gap is less than approximately 0.001 inch.
7. (Cancelled)
8. (Original) The lead of claim 1, wherein the insulative layer comprises a fluoropolymer.
9. (Original) The lead of claim 8, wherein the fluoropolymer is ETFE.
10. (Original) The lead of claim 1, wherein the insulative layer comprises a silicone.
11. (Original) The lead of claim 1, wherein the insulative layer comprises a polyimide.
12. (Original) The lead of claim 1, wherein the insulative layer comprises polyurethane.
13. (Original) The lead of claim 1, wherein the coil conductor includes an MP35N alloy wire having a core of a lower resistance than the MP35N alloy.
14. (Original) The lead of claim 1, wherein the cable conductor includes an MP35N alloy wire having a core of a lower resistance than the MP35N alloy.
15. (Original) The lead of claim 1, wherein the cable conductor includes an outer diameter less than approximately 0.008 inch.

16. (Original) The lead of claim 1, wherein the coil conductor includes an inner diameter less than approximately 0.020 inch.
17. (Original) The lead of claim 1, wherein the coil conductor includes a longitudinal axis and a distal portion extending laterally away from the longitudinal axis to couple with the sensor capsule.
18. (Original) The lead of claim 1, wherein the sensor capsule includes a feedthrough pin and the cable conductor is coupled to the feedthrough pin.
19. (Original) The lead of claim 1, wherein the lead body includes a plurality of lumens and the sensor bus extends through a one of the plurality of lumens.
20. (Currently Amended) An implantable medical electrical lead, comprising:
a lead body including a proximal end;
a sensor capsule coupled to the lead body; and
a sensor bus coupled to the sensor capsule and extending through the lead body to the lead body proximal end, the sensor bus comprising:
an elongate coil conductor forming a lumen of a first diameter,
an elongate cable conductor comprising a plurality of inter-twisted wire strands forming a multilayered, conductive bundle that comprises an outer layer comprising multiple wire strands located around an inner layer that comprises multiple wire strands, wherein the elongate cable conductor extends and extending within the lumen of the
[[the]] coil conductor and electrically isolated from the coil conductor,

an electrically insulative layer formed as a coating on an exterior surface of the cable conductor, wherein an outer diameter of the insulative layer is of a second diameter less than the first diameter of the lumen of the coil conductor such that an average gap exists between the insulative layer and an interior surface of the lumen of the coil conductor, wherein the insulative layer has a relative dielectric coefficient less than approximately 10, and wherein the insulative layer has an inner diameter,

and

wherein the insulative layer reduces capacitance between the cable conductor and the coil conductor over an implanted life of the lead, the layer comprising a polymer material having filling greater than approximately 50% of the average gap between [[the]] the insulative layer of the cable conductor and the interior surface of the lumen of the coil conductor.

21. (Original) The lead of claim 20, wherein the polymer material fills greater than 80% of the average gap between the cable conductor and the coil conductor.
22. (Original) The lead of claim 20, wherein the relative dielectric coefficient of the polymer material is less than approximately 3.
23. (Original) The lead of claim 20, wherein the polymer comprises a fluoropolymer.
24. (Original) The lead of claim 23, wherein the fluoropolymer is ETFE.
25. (Original) The lead of claim 20, wherein the insulative layer comprises a silicone.
26. (Original) The lead of claim 20, wherein the insulative layer comprises a polyimide.
27. (Original) The lead of claim 20, wherein the insulative layer comprises a urethane.

28. (Original) The lead of claim 20, wherein the coil conductor includes an MP35N alloy wire having a core of a lower resistance than the MP35N alloy.
29. (Original) The lead of claim 20, wherein the cable conductor includes an MP35N alloy wire having a core of a lower resistance than the MP35N alloy.
30. (Original) The lead of claim 20, wherein the cable conductor includes an outer diameter less than approximately 0.008 inch.
31. (Original) The lead of claim 20, wherein the coil conductor includes an inner diameter less than approximately 0.020 inch.
32. (Original) The lead of claim 20, wherein the coil conductor includes a longitudinal axis and a distal portion extending laterally away from the longitudinal axis to couple with the sensor capsule.
33. (Original) The lead of claim 20, wherein the sensor capsule includes a feedthrough pin and the cable conductor is coupled to the feedthrough pin.
34. (Original) The lead of claim 20, wherein the lead body includes a plurality of lumens and the sensor bus extends through a one of the plurality of lumens.